(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 8 July 2004 (08.07.2004)

PCT

(10) International Publication Number WO 2004/056468 A1

- (51) International Patent Classification7: B01J 8/42, 19/12
- (21) International Application Number:

PCT/EP2003/013209

(22) International Filing Date:

25 November 2003 (25.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

- (30) Priority Data: 102 60 743.5 23 December 2002 (23.12.2002) DI
- (71) Applicant (for all designated States except US): OUT-OKUMPU OYJ [FI/FI]; Riihitontuntie 7, FIN-02200 Espoo (FI).
- (72) Inventors; and

WO 2004/056468 A1

(75) Inventors/Applicants (for US only): STRÖDER, Michael [DE/DE]; Dürerstrasse 77, 61267 Neu-Anspach (DE). ANASTASLJEVIC, Nikola [DE/DE]; Zum Niddersteg 11, 63674 Altenstadt (DE). GERDES, Thorsten [DE/DE]; Talblick 4, 95448 Bayreuth (DE). WILLERT-PORADA, Monika [DE/DE]; Böttgerweg 5, 95448 Bayreuth (DE).

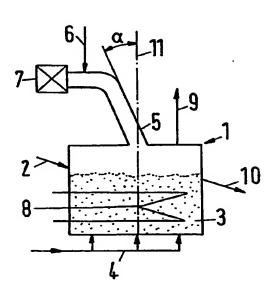
- (74) Agent: KEIL & SCHAAFHAUSEN; Cronstettenstrasse 66, 60322 Frankfurt am Main (DB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EB, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TREATMENT OF GRANULAR SOLIDS IN A FLUIDIZED BED WITH MICROWAVES



(57) Abstract: This invention relates to a method for the thermal treatment of granular solids in a fluidized bed (3, 3a) which is located in a fluidized-bed reactor (1, 1a), wherein microwave radiation is fed into the fluidized-bed reactor (1, 1a) through at least one wave guide (5), and to a corresponding plant. To improve the efficiency of the microwave irradiation, the irradiation angle of the microwaves is inclined by an angle of 10° to 50°, in particular 10° to 20°, with respect to the principal axis (11) of the fluidized-bed reactor (1, 1 a).